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World - The following is a list of the names of the persons who have been named in the following cases:

1915.

Government of the Province of Saskatchewan
DEPARTMENT OF AGRICULTURE

The Care, Feeding and Management
— OF —
THE DAIRY HERD

Dairying is assuming an important position in the agricultural affairs of Saskatchewan. Fostered by the government operation of creameries and a growing desire on the part of many farmers to adopt more intensive methods, it will soon become one of the greatest lines of work in mixed farming. Both within and without the province there is a splendid market for butter during the winter months, especially if freshly made. At present the supply does not meet the demand.

Establishing the Dairy Herd.

No breed of cattle is the best breed for Canada any more than for any other country. Generally speaking the "best" breed is the breed the man likes "best." It might be ventured that under average farm conditions, when milk is sent to a cheese factory or retailed in the city, Ayrshires or Holsteins would be suitable. Where cream is shipped or butter made on the farm, the Ayrshire or Dairy Shorthorn would give satisfactory returns. For the present at least, the average farmer has to consider the question of the disposal of the male calves. On this account it is advisable, when unable either to retail milk in the city or sell whole milk to the creamery, to utilise the Ayrshire or Shorthorn. These breeds produce calves that will make profitable and saleable steers and will cross well with any pure bred beef bull.

The breed having been decided on, the best method is to start with fairly good grades, using a pure bred bull of the breed chosen. If it is desired ultimately to get into pure bred cattle, a good plan is to purchase one or two extra good pure bred females besides the ordinary grades.

The Dairy Bull.

It is an impossibility to build up a good dairy herd without the use of a good pure bred bull. The best way to select the dairy bull is to judge him by the milk records of the families to which his sire and dam belong. In addition, attention must of course be paid to the bull himself.

No animal strikingly weak, or of faulty conformation should be used even if he does come from heavy milking stock. Rugged constitution, pronounced masculinity and correct type are all essential.

Feed and Care.

No set rules can be given, but the bull should receive considerable feed of a bulky character. Bulls that are stabled all the year round must receive exercise of some sort if they are to remain prepotent and profitable. A strongly fenced paddock is the best medium for this purpose. Bulls should be kept in good breeding condition, but not too fat. During the winter months when they are of little or no service, the amount of roughage and succulent food should be increased and the grain ration diminished. During the spring and summer the amount of grain may be increased and the roughage supplemented by some green feed wherever possible. If possible, especially with straw or coarse hay, the roughage should be cut before feeding. Roughly speaking, about three-quarters of a pound of grain per one hundred pounds live weight, preferably oat and barley chop with bran, or any mixture of these, with an occasional handful of flax, ground or whole, will form a good daily grain ration. Roughage may be fed in the proportion of about two and a half pounds of hay per hundred pounds of live weight daily. This, of course, will vary with the quality of the feed and should be supplemented with roots, clover or fodder corn where these feeds are available.

Community Dairying.

It is greatly to be desired that all dairymen in a community agree to keep the same breed of cattle, and not only the same breed but the same type of the same breed. This enables the farmers to join in purchasing high class sires. As soon as a considerable number of farmers have dairy cattle for sale they can advertise together and secure a much better market. In this way their district can gain a reputation for high class stock of one particular breed, and, as there will be several bulls in use, inbreeding is eliminated and the first cost of sires reduced.

Indications of Ability to Produce Milk.

There are various characteristics of type and conformation which usually indicate the ability of the individual to produce milk. The type is essentially spare, angular and roomy. The conformation should be wedge-shaped, showing three different wedges; downwards from the top to the point of the shoulder, from a side view in depth from the front to the rear, and from a front view in width from the front to the rear. In detail the conformation should be as follows: Bright, prominent eyes, set wide apart. Broad forehead, clean, sharply defined face, large nostrils, wide muzzle. Thin, fairly long neck, narrow topped, wedge shaped shoulder with lower points wide apart. Brisket prominent and well let down. Chest wide and deep. Fore ribs long and well sprung, more particularly at lower end. Back ribs well sprung from back bone and long, giving maximum food capacity. Spine prominent with vertebrae open. Loin wide. Hooks prominent and slightly raised, rump broad

and well carried out. Pin bones prominent and set wide apart, tail-head smooth, thighs thin, incurving and set well apart. Escutcheon wide and deep. Udder long, wide and of fine quality without any meatiness or coarseness. The udder should stretch well back and forward and have a level under line or sole. The teats should be fairly large and long, well set apart and of about the same size at top and bottom. Milk veins large, prominent and tortuous, reaching far forward on the side of the cow. Milk-wells large and the more the better. Common faults in connection with the milk vessel are as follows: Pendulous udder, too deep and lacking in length from front to rear. Udder showing division into quarters. Udder in which hind quarters are lower and fuller than fore quarters. Hard or lumpy udders should be avoided. There is also a great difference in teats. Common faults are short, small teats, large fleshy teats, bottle shaped teats, teats set close together on udder, warty teats and small extra teats that interfere with milking. Care should always be taken in selecting a dairy cow that all teats are open and all quarters soft, pliable and uninjured. The udder should have a thin, elastic skin and when caught in the hand should have a resilient, spongy feeling. Quality in dairy cattle is shown in bone, hide and hair. The bone should be fairly fine, the hide mellow and pliable and the hair soft and mossy. Some dairy men claim that a large amount of yellow, waxy, natural secretion on the skin and in the ear is an indication of rich milk.

At Calving Time.

Cow should be kept on a somewhat lighter ration just prior to calving and the feed should be of a laxative nature. One ounce of Epsom Salts per one hundred pounds live weight given from two to three days prior to calving is of value in cooling the system. Heavy milking cows should receive no grain for at least three days prior to calving with the exception of a bran mash once or twice a day. The calf may be left with the cow for the first thirty-six hours. Some dairymen remove it immediately after the first suck, some leave for one or two days. The matter is largely optional, though there is no doubt, especially with heifers and young cows, that the longer the calves are left to suck the harder it is to get them to stand for milking. Heavy milking cows liable to milk fever should not be milked clean out for the first three days. Always keep the hind end of the cow high at calving time, slightly higher than the rest of the body.

Feeding the Calves.

After the second or third day the calf should be taught to drink. Whole milk should be fed for at least one week. During the next week the change from whole milk to skim milk should be gradually brought about. The skim milk should be fed warm from 90 to 100 degrees Fahrenheit. To replace the fat that has been removed in skimming, it is well to add some flax seed jelly beginning with a dessert spoonful in each portion and gradually increasing till about a cupful is being fed night and morning to the three months old calf. In addition to the flax jelly, a little dry bran and whole oats or oat chop should be fed. Some clean, sweet clover hay will be a valuable addition to the ration at an early age. Never feed the calf cold or sour milk. This is the first thing to produce scours.

In feeding separated milk skim the froth off the pail before feeding. If the calf starts scouring, separate from the rest and give wheat flour or roasted whole oats as a mild curative treatment.

The calf stage is over with the sixth or seventh month. Upon the treatment accorded the heifer from that age till the dropping of the first calf will depend very largely her future value as a dairy cow. Good feeding is necessary. It is absolute folly to expect that heifer calves will develop into first class cows, no matter how well they are bred, if they are stunted when young. It is perfectly legitimate to get a good ration at as low a cost as possible, but nothing except failure can come from trying to save money in the dairy business, as in any other line of live stock enterprise, by feeding a poor or insufficient ration, whether to old or young animals.

Heifers.

From every herd there are some members to be removed every year and a point should be made that each fresh unit in the herd should be of higher merit than the animal displaced. Heifers should be bred at about twenty-one months old so that the first calf may be dropped at two and a half years. During the last nine months before calving the heifer should be given every consideration likely to assist her in becoming a good dairy cow. Directly after calving a warm thin slop of oatmeal, bran or shorts should be given or where the cow is weak or exhausted, warm water only. For a few days the ration should be light and gradually increased for two or three weeks when the heifer may be put on full feed.

Milking.

The cows should be milked regularly at the same hours every day, and these hours should be separated by periods of as nearly equal duration as possible.

Cleanliness.—Before commencing to milk, the sides and udder of the cow should be wiped with a clean rag moistened with fresh water. This removes loose hairs, dust and bacteria. The first few streams of milk should *not* be drawn into the pail as they contain a quantity of harmful bacteria. The utmost cleanliness should be exercised by the milker in the care of the animal, of the pails and of himself. Milking successfully is largely a matter of temperament in both animal and milker and it must be admitted that some persons are temperamentally unfit to be in charge of cows. The percentage of fat increases until the highest fat content is reached in the last few ounces that can be drawn or coaxed from the udder. *Moral:* Apply "cleanliness" in every sense of the word.

Milk.

Milk standards are fixed by Provincial Statute in Canada, hence no uniform Canadian standard may be said to exist, but it usually requires that there be no more than 8.75 per cent. water, that the total milk solids shall make up at least 12.5 per cent. and that there be at least 3 per cent. fat.

Feeding fat into the milk.—Many experiments have been carried on to discover whether any appreciable difference arises if food containing

larger amounts of protein are used. The theory, and one which is largely entertained, is that so long as the animal is well nourished, the per cent. of fat in the milk is not appreciably affected by even wide variations in the character of the food.

Suggested Rations for Dairy Cows.

Summer.—Cows on pasture from time grass is five to six inches high. Pasture supplemented by soiling crops such as peas and oats, green corn, oats, vetches, etc., as soon as cattle show signs of falling off in milk flow. While on grass feed, moderate amount of suitable meal mixture as bran, oats, barley, equal parts at rate of from one to four or even five pounds once a day.

Norm.—One pound meal mixture to three pounds milk produced.

Winter.—Use some succulent feed if at all possible. Mangels, turnips, potatoes, etc., hay from clover, alfalfa, brome, western rye, wild prairie grasses, oat sheaves, mixed oats and pea hay, mixed oats, wheat and barley cut green, fodder corn, etc., oat chaff, wheat chaff, oat straw, barley straw, slough hay, etc. Meal mixture made up of two or more of the following: One or more out of each group.

Group (a) Bran, crushed oats, speilts or emmer, shorts, etc.

Group (b) Small wheat, frozen wheat, barley, oil cake meal, flax, peas, beans, etc.

Six Essentials in Dairy Herd Management.

1. The sire is more than half the herd. Be sure that the sire heading your dairy herd will transmit dairy characteristics.
2. Weed out the unprofitable cows by use of the Babcock test and the scales.
3. Raise and keep all heifer calves from the best cows.
4. Winter dairy as much as possible under your conditions.
5. Provide comfortable quarters for milch cows.
6. Always work quietly in the dairy barn and never abuse a cow.

Cleanliness in dairying means bigger cheques and more cheques.